Society Reports.

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REPORT OF TWO CASES OF BRAIN TUMOR.

Dr. Alfred Wiener read this report. In the patient presented, the tumor was revealed by operation; in the other the specimen was obtained by autopsy.

Case I. A male, twenty years of age, was brought to his clinic in June, 1897. He was born of apparently healthy parents, but the father was alcoholic. He was a seven-months baby, but was born apparently in a normal manner. He was slow in learning to walk and talk. When about seven years old, he had otitis media, followed by a profuse otorrhœa. The present trouble first announced itself while he was playing cards; suddenly the cards dropped from his hands, and his face "felt stiff." He insisted that he did not lose consciousness, and that he felt as usual by the next day. Previous to this he had suffered from frequent and severe headaches, associated with vomiting. The pain was usually frontal. One month after the attack just described, there was a second and more severe attack. He remained dazed for about two hours; speech was slow, and he could express his thoughts only with difficulty. He slowly became weaker, and vision failed. When first examined, there was no perception of light in the right eye; with the left eye he could see fingers at four feet; the pupils reacted to light; the veins were engorged; the disk was swollen and hazy. The tongue was protruded straight. The dynamometer showed marked loss of power on the right side. The patellar reflexes were absent on both sides. There was motor aphasia. Physical examination showed the heart, lungs, kidneys and spleen to be normal, and the blood examination revealed a leucocytosis. There was increased excitability on the right side to the electric current. The boy appeared fairly well nourished, but was distinctly apathetic. Smell, and taste, and muscular sense were unimpaired. These symptoms pointed to a tumor. Abscess was excluded for the reason that there was no source of infection. The history was negative regarding tubercular and syphilitic infection. He had been unwilling at first to venture upon the diagnosis of the location of the neoplasm. The possibility of multiple tumors was borne in mind. After four weeks the reflexes in the lower extremities began to return. The headaches became more severe and the disturbance of speech more positively that of motor aphasia. He had, therefore, come to the conclusion that the tumor was a cortical one, involving the face and arm centres, and the posterior extremity of the third frontal convolution—i. e., the speech centre. During this time the man had been on anti-syphilitic treatment, but with negative results. The slow growth of the neoplasm led him to believe that it was a glioma. An operation was advised because he was reasonably sure of the location of the growth, and because a trephine operation seemed justifiable evn if the tumor could not be removed. The patient was operated upon by Dr. A. G. Gerster on July 31, but the operation through the scalp and skull was attended by such great loss of blood that further interference was postponed. A few days later the operation was resumed by Dr. H. Lilienthal. A piece of the tumor was removed, and proved on microscopical examination to be a telangeiectatic glioma. Any attempt at manipulating it resulted in severe hemorrhage. Some days after the operation a small abscess was found near the surface, and this was incised and evacuated. After this improvement was more manifest. On October 12th it was noted that the patient was irritable and, at times, quite excited. He showed some ataxia in his movements; the speech was distinctly hesitating; the patellar reflexes were present, but much diminished. His muscular sense was still present. On November 1st another localized abscess was detected and evacuated. The tumor had been steadily growing out through the wound. On January 18th it was noted that the patient could no longer express the names of familiar objects. On January 28th the mass measured 4¾ inches in length, 2¾ inches in width at the upper portion, and 3¼ inches at the lower part. On February 8th, when he was just recovering from an attack of influenza, it was found that he could no longer walk alone, and that he was much slower in comprehension than formerly. On February 23d the tumor measured 5 inches in length, 3 inches in width at the upper portion, and 3¼ inches at the lower portion. During the month of March he became more apathetic, and could not repeat his own name. At the present time, there is paresis of the left facial and right upper and lower extremities; the patellar reflex is present on both sides; there is double abducens palsy, more marked in the left eye; there is still a tendency to fall toward the right side and backward. The muscular sense on the right side is very much affected. The tumor now measures 5 inches in length, 3¼ inches in width at the upper part, and 3½ inches at the lower part. There have been no severe headaches or epileptic seizures. It is probable that the tumor has been growing just as extensively within the skull as on the outside. The forced laughing, the double abducens palsy and the aphasia all point to extensive involvement of the cortex by the growth.

Case II. A boy of seven years, seen first on October 19th, 1897. The child was born of healthy parents, but the father was alcoholic. The patient was the second child, and was born after a normal labor at full term. He was perfectly well up to twenty months old, at which time he apparently had an attack of rheumatism, lasting five weeks. From then up to a short time before coming under observation he was well developed, both physically and mentally. It was then noticed that he went down stairs clumsily. About this time he came home one day with a marked swelling over the right frontal and parietal region, and said that a man had struck with his fist over this part of the head. After this he suffered from severe headaches, and about the same time it was noticed that he was not as bright as formerly. It was next noticed that fluids would run out of the mouth while he was drinking. On October 19th, examination revealed a paresis of the two lower branches of the right facial nerve, without any electrical change. The tongue, when protruded, deviated toward the right. There were analgesia and slight dullness to touch on the right side of the face. The patellar reflexes were absent on both sides. There was no bladder or rectal trouble, and there had been no epileptic seizures. Although appearing distinctly apathetic, he was fairly intelligent. There was also a double optic neuritis. No evidence of syphilis or tuberculosis could be found. Abscess was excluded for the same reason as in the first case. On account of the complete hemi-paresis and hemi-anesthesia, without loss of the muscular sense, the tumor was thought to be subcortical, and located near the internal capsule. The tumor was suspected to be a glioma on account of location and the symptoms. He was put upon antisyphilitic treatment. On October 23d the patellar reflexes were found to be present, but very much diminished, and anesthesia was more prominent, especially in the right upper extremity. On November 11th the optic disks on both sides showed marked atrophy, and small hemorrhages could be seen in the retina. He walked with a distinct hemiplegic gait. On November 16th, anesthesia was quite marked in the hand and face, and the right arm was totally paralyzed. Up to December 2d the condition remained about the same. The patellar reflexes were exaggerated on both sides. On account of the extensive paralysis of the arm and face, and slight involvement of the leg, he had been inclined to believe that the greater part of the tumor occupied the centrum ovale. The antisyphilitic treatment had been given a fair trial without the slightest improvement. On January 20th, having recovered meanwhile from an attack of scarlet fever, it was found that there was spasticity on the paralyzed side, that he was unable to walk and was totally blind. On February 7th he died, having been intelligent to the last moment. The autopsy was made by Dr. Wiener four hours later. The abdominal and thoracic organs were normal. The brain weighed 52 ounces. The convolutions over the left hemisphere were very much flattened. The left hemisphere was decidedly softened, and horizontal sections through it revealed a soft, infiltrating tumor occupying the entire centrum ovale. In the lower portion of the hemisphere the tumor was mainly frontal. The microscopical examination showed it to be a gliosarcoma.

Dr. Wiener said that the absence of the patellar reflexes had been reported by others, but no satisfactory explanation had been offered for this phenomenon up to the present time. Frontal ataxia, which was really due to involvement of the trunk muscles, which have their location in this particular portion of the brain, was another interesting point. It was worthy of note that in both cases the father was alcoholic. In the second case, as there was one symptom present before the trauma, he was inclined to believe that the trauma only served to make the pathological condition manifest. The relief afforded by the trephining was evident in the first case.

Dr. C. L. Dana said that in the specimen he noticed a portion of the tumor lying back of the Rolandic fissure. This, he thought, might explain the ataxia. He had recently seen a large abscess of the frontal lobe in which there had been no history of ataxia. It seemed to him straining the point to try and make it a frontal ataxia. It could not be from the involvement of the trunk muscles.

Dr. Arthur Booth said that in the three cases of frontal tumor that he had seen, there had been no ataxia, and the reflexes had been absent after the symptoms had been well developed.

Dr. Joseph Fraenkel said that he was convinced that the condition of the knee-jerks was entirely dependent upon the contraction of the muscles. Another factor, of course, is the muscular sense, and still another is the difficulty of determining clinically slight disturbances of deep sensibility. In the case under discussion he would explain it by invasion of the frontal and parietal lobes, and the probable more or less marked disturbance of the deep sensibility.

Dr. W. M. Leszynsky said that the more he tested the knee-jerks, the more he thought the theory of inhibition could be, to a great extent, sustained. This had been particularly noticeable in cases of meningitis in children that he had observed in the early stages. These children had been previously tested for their knee-jerks as a matter of routine. When the signs of pressure had set in later, the knee-jerks had become exaggerated, and this he attributed to the irritation within the brain. A similar explanation could be offered in connection with the case now under discussion.

Dr. B. Sachs thought the question of ataxia in these cases could not be settled by the supposition that it was wholly due to the invasion of the tracts lying in the vicinity of the parietal lobule, for the reason that ataxia had been noted in other cases of frontal tumor in which there had been no involvement of that particular region. It seemed to him, therefore, that the ataxia had come to be looked upon as a symptom of frontal tumor. The behavior of the reflexes in the cases reported seemed to him very remarkable. In his own mind the older theories were of greater help than the theory suggested by Van

Gehuchten, or that propounded by Fraenkel. He believed Dr. Fraenkel was confounding things which are coincident, without necessarily being related as cause and effect. It would not do simply to assume that there were changes in the deep sensibility which we were as yet unable to detect clinically. He was inclined to believe that the same causes which produce loss of reflex are also responsible for the changes in the tonus and in the deep sensibility. There was probably some additional fact in the explanation of the reflexes which was yet lacking, but we should not endeavor to make the facts fit the theory. Another interesting point in this case was the certainty with which it was diagnosticated as a subcortical tumor. The hope of an excision had been abandoned at a very early day. The diagnosis of its situation had been largely based upon the non-occurrence of epileptiform seizures from the beginning to the end of this disease.

Dr. Wiener, in closing, said in reply to Dr. Dana, that he did not doubt that there might be tumors of the frontal lobe without any ataxia, but it had been shown when the portions bordering on the frontal convolutions were destroyed, there was this peculiar cerebellar gait. If Dr. Fraenkel's theory regarding the reflexes were correct, he could not understand why, in the case just reported, the reflexes should have returned afterward. He thought the increased reflexes were due to the destruction of the normal inhibitory influence.

A CASE OF SUBCORTICAL VISUAL APHASIA.

Dr. Joseph Collins reported such a case, and presented the brain. The patient, a male, fifty-eight years of age, had not had syphilis, rheumatism or gout; nevertheless the vessels showed well-marked arterial sclerosis. For five months he had been complaining of headache and vertigo. Then, without warning, he became unconscious, and lay in a stuporous condition for about three weeks. After this he recovered his mental balance, but was unable to return to work because, it was said, of his "weakness." Examination of the eyes showed complete right lateral homonymous hemianopsia. There was complete word blindness, and almost complete letter blindness. He could not mark a word off into syllables. There was no object blindness. He recognized things and called them by their right names. He wrote very badly to dictation, and this showed that he could not retain the words in mind long enough. When asked to read what he had written, he pointed to each word and said: "I would like very much to read," and continued to repeat this again and again. He did not give the slightest heed to words put in writing, although he responded promptly to spoken commands. Spontaneous speech was not materially disordered. The symptoms pointed to a lesion between the angular gyrus and the visual centres, situated in the posterior end of the left hemisphere. If the lesion were in the primary visual centre, there would be object blindness.

The patient had been admitted to the City Hospital, and extended observation showed no material change in the above findings. He was easily excited. On November 8th, 1897, he suddenly fell over in a general convulsion. He did not recognize any one after that, and soon developed a right-sided hemiplegia. The autopsy was made a few hours after death. There was no noticeable abnormality, aside from the brain, except an extensive arterial sclerosis. The entire occipital lobe was reddish-yellow, and, with the exception of the extreme posterior cortex, the brain was replaced by a cystic formation. Nearly all of the lingual gyrus and the cuneus had been destroyed—in short, the cystic formation involved the whole posterior part of the left hemisphere save the very apex of the cuneus, and particularly the inner surface. The remainder of the left hemisphere was apparently normal. The temporal lobes were not implicated. The depth of the lesion was almost through the thickness of the white matter and into the ventricles. Both lateral ventricles were distended with clots.